

**SOME NEW OR LITTLE-KNOWN MIRIDAE FROM THE  
NORTHEASTERN UNITED STATES**

(HEMIPTERA)

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This paper includes the description of two new species and notes on two previously described forms.

***Lygus epelys*, new species**

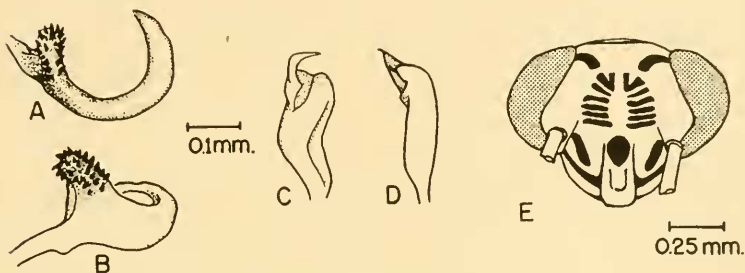
Figs. A-E

*Male*.—Length 4.2 mm., humeral width 1.70 mm. Head, width 1.01 mm., vertex .45 mm.; yellowish; vertex with an oblique curved brown mark each side, attaining inner margin of eyes; front with six or seven minutely rugulose dark brown or black striae each side of middle line, fig. E; tylus with a dark brown spot on base and several vague brown markings on apical half; jugae with a small brown streak extending upward to level of antenniferous tubercle; upper and lower margins of genae brownish-fuscous. Antennae yellow-testaceous, fourth segment and apical half (or more) of third segment infuscated; first segment embrowned at extreme tip, and with an elongated brown spot at middle on inner side; second segment slightly, gradually thickened from base to apex, where it is very slightly thicker than first segment, extreme base ringed with brown, apical fifth somewhat darkened; lengths of segments I-IV (in hundredths of a millimeter), 35: 106: 65: 66. Basal carina of vertex thin and sharp at the middle, disappearing at either side. Rostrum, length 1.58 mm., surpassing hind coxae and attaining third ventral segment.

Pronotum, length 1.00, width at base 1.70 mm.; shining, coarsely punctate and with prostrate golden pubescence; yellow-testaceous, marked with brownish-fuscous as follows: a somewhat triangular spot behind each callus, widened outwardly and invading the callus, continued forward on outer side to reach pronotal collar, a small spot at middle of lateral pronotal margin, a rounded spot within each humeral angle, and a short transverse intra-marginal line before the scutellum, interrupted at middle. Propleura brownish-piceous on the middle, with a low, horizontal, subcallous, ivory-white ridge originating at coxal cleft. Mesosternum black, opaque, with a yellow spot before coxal cleft, the cleft margined with yellow. Mesopleura black above ostiolar peritreme, which is yellowish, becoming fuscous anteriorly. Mesoscutum yellowish, with sericeous golden pubescence. Scutellum moderately convex, transversely rugulose, sparsely punctate; blackish-brown, middle line (slightly widened at tip), base at each side, and lateral margins toward base, yellowish; base and lateral margins with sericeous golden pubescence, disk with longer and finer prostrate hairs concolorous with their respective areas.

Hemelytra variegated with blackish-brown and yellow-testaceous, and irrorate with tufts of golden sericeous pubescence which sometimes par-

tially conceal the underlying color pattern. Clavus lightly embrowned toward base, the part lying behind scutellum yellow, a short black streak at middle just inside claval vein, and a wider streak at same level adjacent to claval suture. Corium largely yellowish, marked with blackish-brown as follows: extreme outer edge of embolium, a large area on basal half of corium, joined by two vague but rather broad vittae (one each side



*Lygus epelys*: A, left clasper, dorsal aspect; B, left clasper, lateral aspect; C, right clasper, median aspect; D, right clasper, ventral aspect; E, front view of head.

of cubital vein) with a second blackish area extending across embolium and corium to include paracuneus and basal half of cuneus; extreme apex of embolium pale; tip of cuneus with a black spot; testaceous areas of corium and cuneus more or less translucent. Membrane fuscous; basal part of cells, also a marginal spot behind middle, pale; veins pale, the brachium largely black next to larger cell. Hemelytra with fine prostrate pubescence in addition to the tufts of golden sericeous hairs.

Venter brownish piceous, shining, with short, sparse, pale pubescence; each spiracle surrounded by a yellow spot, also a row of larger pale spots about midway between lateral margin and midventral line. Genital elaspers, figs. A-D, distinctive, most nearly like those of *L. ultranubilus* Knight, the left clasper (seen from above) less strongly incurved at tip, claw of right clasper differently shaped.

Front and middle femora brownish-piceous on basal half, yellow on apical half, with two brown bands (interrupted above) before apex; hind femora with a broad brown band just beyond middle and with two narrower pre-apical bands, the basal half spotted with paler brown above. Front and middle tibiae yellowish, with two dark spots near base on outer (dorsal) side; hind tibiae infuscated below except at tip, outer side pale, spines dark.

*Female*.—Length 4.6 mm., humeral width 1.98 mm. Head, width 1.10 mm., vertex .50 mm. Lengths of antennal segments I-IV (in hundredths of a millimeter), 43:118:75:70; first segment with a narrow black

line below, curving to inner side near base. Vertex and front marked as in male; tylus brownish-black along median line. Pronotum, length 1.13 mm., colored as in male. Hemelytral coloration generally like that of male; black area of clavus longer, extending to middle of commissure; dark areas of corium not joined by longitudinal vittae; cuneus pale, translucent, black at tip and with an oblique black band from outer basal angle to base of smaller cell of membrane; median pale spot of membrane extended as a pale stripe roughly paralleling inner vein, but separated from it by a narrow fuscous stripe. Median dark band of hind femora narrower than in male. Second ventral segment narrowly margined with white on inner and posterior edges; ventral spots on segments 3-8 almost coalescent to form an irregular pale band. Rostrum distinctly surpassing hind coxae.

*Types*.—Holotype ♂, 2 miles east of Lakeville, Town of Salisbury, Litchfield County, Connecticut, Oct. 9, 1933 (R. F. Hussey), in my collection; Allotype ♀: Midland County, Michigan, July 10, 1952 (R. R. Dreisbach), in Dreisbach collection.

This species is most nearly allied to *L. ultranubilus* Knight, 1917; slightly larger than that species, the frons with blackish striae, the male genital claspers different as noted above. The holotype stood alone in my collection for twenty years; no additional specimens were taken in my subsequent collecting at Lakeville in 1934 and 1935. I had seen no other specimen until the allotype was received from Mr. Dreisbach. A second female was taken by Mr. Dreisbach in Osceola Co., Mich., May 23, 1953.

The occurrence of this species in the northeastern states is of particular interest since its closest relatives range from the Rocky Mountains west to the Pacific coast; and none of them has been reported, so far as I am aware, farther east than northwestern Nebraska.

#### *Lygus superiorenensis* Knight, 1917

This species has been known heretofore only from the male holotype collected at Sault Ste. Marie, Michigan. It is to be presumed that the antennae of this specimen were lost, as no mention of them appeared in the original description or in Blatchley's (1926) abstract therefrom, though Blatchley placed the species in his key partly on antennal characters.

A female in the University of Michigan Museum of Zoology undoubtedly belongs here. It was collected on Isle Royale, Lake Superior, July 11, 1905, was identified as "*Lygus pratensis* L., var." by Herbert Osborn, and was reported under that name by Adams (1909, p. 261). However, it is clearly distinct from *Lygus lineolaris* P.B. (then considered a syn-

onym of *pratensis*) by its larger size, its shining, nearly glabrous aspect, its longer rostrum, its coloration, and its distinctly longer antennae whose second joint is much less thickened toward the tip. It is very similar in appearance to *L. rubroclarus* Knight, but is smaller and has the membrane (except the veins) entirely colorless and transparent.

This specimen agrees well with the male in the critical measurements of head and thorax, but its coloration appears to be somewhat lighter—as is not uncommonly the case in this group of *Lygus* species. A description of this female follows.

Length 6.0 mm., width across hemelytra 2.83 mm. Head: length .50 mm., height .64 mm., width 1.11 mm., vertex .49 mm.; yellow, shining; front with indistinct oblique striations, and with two parallel longitudinal reddish lines which widen anteriorly to meet bases of antennae; tylus red at tip, clouded with pale reddish-brown each side, and with a faint brown median line extending a short distance onto front; jugae yellow; lorae reddish; gula and bucculae yellow. Antennae: segment I, length .58 mm., reddish; II, 1.75 mm., uniformly slender (.05 mm.) on basal half, thence very gradually thickened to a maximum of .08 mm., at apex, red, infuscate on apical fourth but without trace of dark ring at base; III, 1.00 mm., blackish; IV, 1.04 mm., blackish. Rostrum red, basal joint yellow at apex, fourth joint blackish on apical fourth; length 2.28 mm., attaining apex of third abdominal segment.

Pronotum, length 1.25 mm., width at humeral angles 2.25, at anterior angles .88 mm., glabrous, strongly shining, punctuation about as in *L. lineolaris*; yellowish, with a transverse piceous band across posterior fourth, extreme hind margin narrowly pale; disk with two reddish rays behind each callus (the outer one becoming piceous behind the middle), and with a narrower reddish submarginal ray, abbreviated anteriorly; calli reddish on outer half, reddish color outwardly extending forward to sulcus behind collar and there becoming piceous. Scutellum partly destroyed in pinning, yellow, with faint traces of an oblique, red, submarginal vitta on each side; disk with about a dozen, more or less interrupted, fine transverse sulci, most numerous on basal third.

Hemelytra shining, shallowly punctate, each puncture with a minute, prostrate, pale hair; reddish-brown, becoming piceous on clavus; corium more or less translucent, with two divergent piceous streaks on basal half, one next the costal vein, the other inside the radial vein; apical half with a similar piceous streak outside the radial vein, curving to join a piceous spot in outer apical angle of corium; embolium reddish, fading to testaceous at base, more or less piceous at apex; cuneus translucent, brownish, all three margins bordered with red. Membrane transparent, nearly colorless, most faintly clouded with brownish in apical part of smaller cell and adjacent part of larger cell; veins red.

Beneath reddish; front acetabula, prosternum, narrow hind margin of mesepisternum, lower part and posterodorsal edge of epimeron, ostiolar peritreme, and a spot around each ventral spiracle, yellow; sides

of venter with a nearly obsolete yellow band; mesosternum blackish. Legs red; tips of coxae and edges of trochanters yellow; femora with two or three faint yellow annuli near tips; tibiae yellowish on basal half, the extreme base, a sub-basal spot, and apical half, red; spines very dark brown; tips of tarsi blackish.

***Alepidia bellula*, new species**

*Male*.—Length to tip of abdomen 2.9 mm., to apex of membrane 3.6 mm.; maximum width 1.2 mm.

Head, length .48 mm., width .93 mm., vertex .48 mm., height as seen from side .63 mm.; black, weakly shining; glabrous above, genae and tylus with sparse, minute hairs, lower cheeks and gula with setulae less conspicuous than in *A. gracilis* (Uhler); vertex minutely wrinkled, faintly impressed each side before the sharp basal carina; front with a few indistinct transverse ridges each side of median line, sides not at all or scarcely flattened next to the eyes. Antennae pale yellowish, third and fourth joints fuscous, first segment with a narrow pale brown ring near base, second segment sometimes lightly infuscated at extreme tip; first segment with a few erect setae, other segments with fine semi-prostrate pilosity; lengths of segments I-IV (in hundredths of a millimeter), 24: 96: 50: 45. Rostrum yellow, piceous at tip; length 1.20 mm., not reaching tips of middle coxae.

Pronotum, length .63 mm., width at humeri 1.02 mm.; black, feebly shining, glabrous, faintly alutaceous; sides strongly oblique on posterior third, subparallel or lightly converging in front on the anterior two-thirds; basal margin broadly and shallowly sinuate; anterior angles rounded, humeral angles subacute, projecting beyond bases of hemelytra. Propleura more shining and more distinctly wrinkled than the pronotum; mesosternum shining, black, mesepimeron with an oblique band of silvery pile; ostiolar peritreme thickly and finely grayish-granulose. Scutellum black, its disk shining, with a tuft of silvery hairs in basal angles and a band of similar hairs across the depressed apical portion.

Hemelytra pale brownish or pale reddish-brown, embolium and extreme base of corium yellowish, tip of embolium sometimes piceous, sometimes suffused with red, basal area of clavus infuscated, apex of clavus smooth, black; inner edge of corium commonly dark brown or fuscous next to claval suture at about its mid-length, the corium often suffused with reddish adjacent to this spot; cuneus strongly shining, brownish-piceous; apical half of exocorium, between embolium and radial vein, dark brown, a little paler and less strongly shining than the cuneus, the shining area narrowed anteriorly, extending forward slightly beyond the posterior silvery line. Membrane fumate, with a large, oval, velvety black, discal spot whose proximal end invades apical portion of larger cell. Hemelytra with sparse, prostrate hairs, and with deciduous, silvery, scale-like hairs occurring (in unrubbed specimens) as follows: a tuft on inner basal angle of cuneus; a tuft on clavus before its tip, sometimes extending slightly across claval suture onto corium; a transverse band across corium.

opposite tip of scutellum, dislocated and sometimes rather widely interrupted at radial vein; a transverse band on inner half of mesocorium opposite middle of claval commissure, this band often connected by a slender line of silvery hairs with the pre-apical tuft on clavus; a slightly oblique band on exocorium approximately opposite pre-apical tuft on clavus; and a sparse sprinkling of silvery hairs on the apical fourth of mesocorium, not forming a definite pattern.

Venter shining black, with sparse, minute, prostrate, black hairs; segments 3 and 4 with a tuft of silvery hairs on each side. Legs pale yellow; coxae sometimes pellucid whitish; hind femora clouded with reddish or reddish-piceous on apical third, the extreme tip pale; tibial spines and last tarsal segment fuscous.

*Female*.—Length 3.5 mm., width 1.13 mm. Very similar to the male in size, form, and coloration.

*Types*.—Holotype ♂, 5 miles southeast of Newaygo village, Newaygo County, Michigan, T. 12 N., R. 12 W., Sec. 26/27, July 12, 1953 (R. F. Hussey), in University of Michigan Museum of Zoology; Allotype, ♀: same data as holotype; Paratypes: 7 males, 9 females, taken with the types on young *Pinus banksiana* beside Highway M-46 where it skirts the "High Rollaway" on the south bank of the Muskegon River.

This species is readily separable from *Alepidia gracilis* (Uhler) by the basic light brown color of the hemelytra and the yellowish embolium, also by the distinctly oblique head which (in side view) is thicker at the tip than in Uhler's species. Other characters which distinguish this species from *gracilis* are the shallower impressions on the vertex, the front not flattened next the eyes, the second antennal segment less than twice as long as the third, and the rostrum not reaching the tips of the middle coxae. In actual length the rostrum of *gracilis* is shorter than that of *bellula*, but in *gracilis* the vertical position of the head (with the tylus not anterior to the front margin of the eyes) causes the tip of the rostrum to surpass the middle coxae and sometimes even to reach the apex of the hind ones. The comparison material of *Alepidia gracilis* (Uhler, 1895) used here is of the variety *squamosa* Knight, 1926, and was collected by me at Ann Arbor, Michigan, July 28, 1950.

The deciduous scale-like hairs are very easily lost, and few specimens retain enough of them to show their distributional pattern in its entirety. Furthermore, eggs in the bodies of the females decompose after death and release oily substances which penetrate the cuticle and form a film over these hairs, rendering them almost invisible. In some of the paratypes this took place within four weeks from the time of capture; and while the individual hairs can still be seen under proper illum-

ination, they no longer have the silvery aspect characteristic of fresh material.

The name *Alepidia* is a most inappropriate one for this genus, as Reuter based it on the absence of deciduous scale-like hairs (perhaps rubbed away) on the specimens examined by him and by Uhler. As pointed out many times by others, however, inappropriateness of a name does not invalidate it, and this one will have to be retained.

#### *Deraeocoris albigulus* Knight, 1921

When describing this mirid, Knight remarked that he had found it only on the introduced species *Pinus sylvestris*, and surmised that the original host plant might be the native *Pinus resinosa*. In central Michigan *D. albigulus* is the species of *Deraeocoris* commonly found on jack pine, *Pinus banksiana*. I have taken it on this tree in Huron and Newaygo Counties, and the University of Michigan Museum has specimens from Roscommon County collected on jack pine by Professor S. A. Graham. These last specimens are labelled "predator on spruce bud worm."

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#### BOOK NOTICE

**PLANT DISEASES IN ORCHARD, NURSERY AND GARDEN CROPS**, by Ernst Gram and Anna Weber (translated from the Danish by Evelyn Ramsden), edited and adapted by R. W. G. Denis. Cloth, quarto, 618 pages, 349 text figures, 10 colored plates, bibliography, and index. Philosophical Library, New York, 1953. Price \$18.50.